

## Case Report

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## From Hypertension to Edema: Managing Amlodipine's Side Effect

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### Abstract

A 42-year-old female, known hypertensive for last 5 years managed via amlodipine, presented with complaint of bilateral lower limb swelling for the last 1 week, which started gradually first on the right foot (refer to image 1) and then progressed to the other foot and bilateral limbs (image 2). Apart from swelling, patient didn't have any other associated symptoms of urinary or cardiac system. Patient's medical history is significant for hypothyroidism for last 10 years managed via levothyroxine and her surgical history is significant for myomectomy.

**Keywords:** amlodipine; side effect; hypertension; calcium channel blocker

### Introduction: History

A 42-year-old female, known hypertensive for last 5 years managed via amlodipine, presented with complaint of bilateral lower limb swelling for the last 1 week, which started gradually first on the right foot (refer to image 1) and then progressed to the other foot and bilateral limbs (image 2). Apart from swelling, patient didn't have any other associated symptoms of urinary or cardiac system. Patient's medical history is significant for hypothyroidism for last 10 years managed via levothyroxine and her

surgical history is significant for myomectomy. Her family history is positive for chronic kidney disease, diabetes, and hypertension. Her swelling made her anxious for renal disease. On examination, patient was vitally stable, had bilateral grade 2 pitting edema, normal systematic examination. On the clinical examination, diagnosis of amlodipine induced edema was made. Urine routine examination, renal function tests, serum electrolytes were requested, results were in the normal ranges. Amlodipine was stopped, patient was shifted to ACE inhibitor immediately, eventually her edema resolved within 3 to 4 days.



Figure 1: showing edema in the right foot.



Figure 2: showing bilateral edema.

## Discussion

When a patient presents with bilateral leg edema, venous insufficiency, congestive heart failure and pulmonary hypertension are considered as the top differentials [1]. Amlodipine - Calcium Channel Blocker (CCB) is commonly used to treat hypertension worldwide. Fatigue, nausea, headache, and dizziness are the most common side effects of it [2], Peripheral edema is a known but rare side effect. This side effect is mainly dose dependent with an incidence of 12%. The underlying pathophysiology is that it causes vasodilation, leading to fluid leakage from the capillaries into the surrounding tissues [3]. Patients are often treated with a dose reduction of this drug which has proven to reduce and resolve the edema [3]. To avoid such instances, other classes of antihypertensives should be preferred as indicated in a pilot study, combination therapy such as addition of ACE inhibitors to CCB has caused lowering of arterial blood pressure as well as lower limb edema [4].

## Declarations

### Acknowledgements

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## Conflict Of Interest

None

## References

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